

# Unit 1: Measurement

## Scientific Notation and Percent Error

### Scientific Notation

3500 = \_\_\_\_\_      0.0035 = \_\_\_\_\_

#### Rules:

1. Move the decimal so there is only one nonzero digit to the left of the decimal point.
2. Express the number of decimal places moved as a power of ten.
3. If the decimal is moved to the left the exponent will be positive (indicates a large #).
4. If the decimal is moved to the right the exponent will be negative (indicates a small #).

#### Practice Problems:

500000 = \_\_\_\_\_       $5.20 \times 10^4 =$  \_\_\_\_\_

620000 = \_\_\_\_\_       $6.20 \times 10^{-3} =$  \_\_\_\_\_

0.0540 = \_\_\_\_\_       $6.05 \times 10^6 =$  \_\_\_\_\_

0.000603 = \_\_\_\_\_       $2.53 \times 10^{-2} =$  \_\_\_\_\_

## Math Operations: Using scientific notation

Multiplication – multiply the coefficients and add the exponents.

$$(6.0 \times 10^3) (3.0 \times 10^5) =$$

Division – divide the coefficients and subtract the exponents.

$$8.0 \times 10^6$$

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$$2.0 \times 10^8$$

% Error:

% error = 100 – your %

or

% error = (amount off/total) (100)

Problem:

You scored 42.0 out of 50.0. What is the percent error?